

APPENDIX 8

LANDOWNER FOLLOW-UP PACKAGE

Date:

Landowner Name

Landowner Address

Dear Landowner:

As you recall, your woodlot/natural area was inventoried in the summer of 2001 as part of the Middlesex Natural Heritage Study. We were very pleased with the positive response from landowners such as you who granted permission for our staff to inventory 68 woodlots within the County. We have analyzed the data and now have a better understanding of the extent, health and characteristics of the woodlands in Middlesex County. We would like to share some of the results with you, as promised.

Attached you will find:

- ▶ a summary of the findings from the Middlesex Natural Heritage Study
- ▶ a summary of data collected from your woodlot including a list of the species (Note: if the woodlot is owned by more than one owner, the data has been summarized for the woodlot as a whole instead of by individual properties)
- ▶ a map of your woodlot showing the vegetation community boundaries
- ▶ information flyers on forestry services, woodlot owner's association and Carolinian Canada

If you have any questions about the attached information or would like a copy of the full technical report, please contact me at (519) 451-2800 ext. 261 or tchirt@thamesriver.on.ca. The information from this study is helping County Council plan for the future of our natural resources. With only 12.3% forest cover, every woodlot is important. Congratulations on helping to preserve a piece of the county's natural heritage system.

Thank you again for your valuable assistance in this study.

Yours truly,

UPPER THAMES RIVER CONSERVATION AUTHORITY

Tara Tchir
Planning Ecologist

Encl.

Middlesex Natural Heritage Study Summary of Findings-Spring 2003

In the summer of 2001, 68 woodlots were inventoried throughout Middlesex County. The following is a summary of some of the key findings about the state of the County's forests.

Forest Cover

12.3% of Middlesex County is covered in forest including treed swamps. Scientists estimate 25-35% forest cover is needed in southern Ontario to ensure the long term survival of our native plants and animals and to protect the quality of the water and air.

There has been a slight increase in forest cover in the county since the 1950s due to tree planting efforts and the retirement of marginal farmland.

Woodlot Size

There are approximately 8600 woodlots in Middlesex County. The vast majority (60%) are less than 2 hectares (ha) in size and another 22% are between 2 and 10 ha.

Only 18% of the woodlots are over 10 ha, but these account for most of the forest cover. Many declining bird species require large woodlots with interior forest. Interior forest is the protected core of a forest more than 100 metres away from any edge. Most woodlots under 10 ha do not contain interior forest.

	Area (ha)	% of County
Middlesex County	284,464	--
Forest Cover	39,989	12.3
Interior Forest	11,378	4.0

Forest Age

Forest age across the county is generally young. Only 36% of the forest vegetation communities surveyed were described as mid-aged or older. Older growth forests are becoming increasingly rare, along with the wildlife that rely on them.

Basal Area

Basal area (BA) measures the area in m² taken up by trees in a hectare of forest. The table below compares the Provincial Forestry Standards for BA against the Middlesex County averages for BA.

Tree Size (dbh)	Provincial Forestry Standard (m ² /ha)	Middlesex County Average (m ² /ha)
Small (<25 cm)	5	9
Medium (25-50 cm)	9	9
Large (>50 cm)	6	1

*dbh = diameter at breast height

Most Middlesex woodlots have an over abundance of small and medium sized trees and too few large trees. This size class structure negatively affects the rate and quality of new growth. The lack of large trees may be due to the practice of diameter limit cutting which takes most of the large, healthy trees. Diameter limit cutting is not considered good forestry practice.

Canopy Cover Change

Dominant tree canopy types found in 2001 were compared with types documented in historic conservation authority reports from the 1950s to 1960s. The data show that there has been a definite shift in the species of trees that dominate woodlands in Middlesex.

There have been increases in the relative dominance of silver and red maple, ash, tamarack, hickory and aspen. Conversely, there have been decreases in beech, black cherry, oak and white elm. This trend is similar to that found in other areas in southern Ontario.

The change is likely due to logging practices that change the age of the forest and favour some species over others as well as drainage practices. For example, the increase in ash and aspen is likely due to the fact

that forests are younger today and these species are early successional trees (e.g. they come in when the canopy is open and there is a lot of light).

On the other hand, valuable lumber trees such as beech, black cherry and oak are often removed and seldom regenerate. The decrease in elm is more likely the result of the rapid spread of Dutch Elm disease.

The relative dominance of sugar maple, yellow birch and basswood has stayed the same. Sugar maple continues to be a favoured tree owing to its use in maple syrup production.

Native versus Non-native Plants

450 plant species were recorded in the study, only 29% of the known flora for Middlesex County. Of the 450 species, 376 (84%) were native species and 74 (16%) were non-natives (aliens).

There was a strong relationship between woodlot size and the number of native plant species. Larger woodlots support a greater number of native plant species both in absolute numbers and proportionally to their size.

However, there was no relationship between woodlot size and non-native species. Most of the alien species were not widespread and only found in a few woodlots. The most common non-native plants were garlic mustard and herb robert. Garlic mustard was found in 75% of the woodlots, indicating many sites have experienced enough disturbance to allow this invasive weed to gain a strong foothold.



A botanist records tree species in a wooded swamp.

Some Southern Tree Species

Middlesex County spans the Carolinian Life Zone to the south and the Great Lake St. Lawrence Forest Region to the north. The Carolinian Life Zone is one of the most ecologically diverse regions in Canada. Below is a summary of some of the interesting tree species with a southern affinity found in the inventoried woodlots:

- | | |
|-------------------|-----------------|
| bitternut hickory | swamp white oak |
| shagbark hickory | black oak |
| witch hazel | bur oak |
| black walnut | blue-beech |
| sweet cherry | tulip tree |



Black walnut leaves and nuts

Information

For more detailed information on the Middlesex Natural Heritage Study, please contact:

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Middlesex County Natural Heritage Study

Woodland Survey Findings

STATS:	WOODLOT ID #	DATE SURVEYED	WOODLOT AREA (ha)	FOREST INTERIOR (ha)
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VEGETATION COMMUNITIES: (see map)	COMMUNITY #	SYSTEM	MOISTURE	ECOLOGICAL LAND CLASSIFICATION TYPE
	1			
	2			

DISTURBANCES:	NON-NATIVE SPECIES	WINDTHROW	DISEASE	CANOPY GAPS	BROWSE
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NUMBER OF TREES IN PRISM SWEEPS:	SPECIES	SMALL TREES (<25 cm dbh)	MEDIUM TREES (25-50 cm dbh)	LARGE TREES (>50 cm dbh)	TOTAL
CALCULATED BASAL AREA (m²/ha) =					
IDEAL BASAL AREA FOR ONTARIO (m²/ha) =		5	9	6	20
RECOMMENDATIONS:					

PLANT LIST:	SCIENTIFIC NAME	COMMON NAME	SCIENTIFIC NAME	COMMON NAME
	Trees, Shrubs and Woody Vines		Wildflowers and Herbaceous Plants	

SUMMARY OF PLANTS:	# SPECIES	# NATIVES	# NON-NATIVES	MEAN CONSERVATISM COEFFICIENT
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ANIMAL LIST: (incidental sightings)	
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GLOSSARY

WOODLOT ID #:	- a unique number assigned to each woodlot in the county for the purpose of this study only
FOREST INTERIOR:	- a computerized mapping calculation of the area of forest remaining after the outer 100 metres is removed from all sides (min 0.5 ha); forest interior is the protected core of a woodlot or forest that many declining bird species need to nest successfully.
SYSTEM:	- Wetland or Terrestrial. Wetlands are lands that are seasonally or permanently saturated and contain wetland plants. Terrestrial systems are all others (e.g. upland woods).
MOISTURE:	- the moisture content of the soil (e.g. wet, moist, fresh, dry) and whether it is organic or mineral in nature; organic soils form in association with wetlands (bogs, swamps, fens, marshes).
ECOLOGICAL LAND CLASSIFICATION:	- a system developed by the Ontario Ministry of Natural Resources that standardizes how vegetation communities are described and categorized across the province
PRISM SWEEPS:	- a forester's technique using a special wedge prism to calculate basal area, volume of wood and relative dominance of tree species; the forester pivots from a fixed point and records all of the trees not offset from the natural image seen in the prism.
dbh:	- diameter breast height. Tree size is measured by wrapping a measuring tape around the tree at the breast height of a person.
BASAL AREA:	- the area of a forest taken up by trees (e.g. volume of wood in m ² per hectare)
IDEAL BASAL AREA:	- guidelines set by the Ontario Ministry of Natural Resources to maintain forest health
LICENCED MARKER:	- a forester who successfully completes the Provincial Tree Marking Course set by the OMNR and signs a Code of Ethics
NATIVES:	- plant species that occurred in the region before European settlement
NON-NATIVES:	- plant species that did not occur in the region before European settlement, but instead were brought in from other parts of the world or province, intentionally or accidentally
MEAN CONSERVATISM COEFFICIENT	- a conservatism coefficient between 0 and 10 is assigned to each native plant species, reflecting each species' faithfulness to a particular habitat type, or the likelihood that it will be found in a pristine or undisturbed site. A plant with a high conservatism score such as 9 or 10 is considered very conservative, with a low probability that it will be found in a disturbed habitat. A plant with a low score such as 0 - 3 might be found in a range of habitats, either disturbed or not. The mean conservatism score reflects the complete native plant species list recorded for a woodlot.
ANIMAL LIST:	- this list records incidental observations of animals, seen or heard. Specific effort was not made to find animals in this study.

APPENDIX 9

**RECOGNIZED NATURAL HERITAGE FEATURES IN
MIDDLESEX COUNTY**

Recognized Natural Heritage Sites in Middlesex County

Environmentally Significant Areas

Site Name	Area (ha)	Site Name	Area (ha)
Adelaide Woodlot	90	Longwoods Woodlot	834
Ailsa Craig Woodlot	59	Lucan Woodlot	75
Ausable River ANSI	1124	Maple Lodge Woodlot	38
Below Parkhill Dam Woodlot	396	Melbourne Marsh	28
Big Munday Creek	129	Morrogh Creek Woods	74
Brimsley Woodlot	48	Mud Lakes ANSI	84
Camp Kee-Mo-Kee	28	Nairn Woodlot	197
Caradoc Heronry	51	Newbury North Woodlot	108
Caradoc North Woods	94	Oneida Ravine	73
Centralia Woodlot	88	Parkhill Creek Valley Complex	543
Coldstream Woodlot	70	Rookery Woodlot	22
DeJong Woodlot	43	Sharon Creek Ravine	58
Delaware Bottomland Forest	45	Shields Woods	123
Delaware Northeast Woodlot	309	Skunks Misery ANSI	1210
Denfield Woodlot	34	South Ilderton Woodlot	49
Devizes Woodlot	48	South Moray Woodlot	136
Dingman Creek Woods	99	South of Greenway Woodlot	129
Dorchester Swamp ANSI	559	South of Parkhill Woodlot	59
Ekfrid Ravine	103	South Parkhill Creek Woods	87
Elginfield Woodlot ANSI	37	Southwold Station Woodlot	46
Five Points Woods	88	Springers Creek Woodlot	144
Foster Ponds	44	St. Ives Floodplain	147
Glanworth Woods	70	Telfer Woodlot	40
Harrietsville Station Woodlot	26	Thames River Floodplain ANSI	344
Ivan Woodlot	63	Thamesford Woodlot	193
Kains Road Forest	55	Thorndale River Valley	188
Kerwood Woods	111	Vanneck Woods	52
Kilworth Bluff	21	West McGillivray Woodlot	537
Knapdale Woods	228	West of Arkona Woodlot	22
Komoka Bluff	45	West Parkhill Creek Woods	77
Komoka Bridge Woodlot	41	Wyton Station Woods	58
Komoka Park Reserve ANSI	189	TOTAL AREA	10207

* Does not include City of London ESAs

Evaluated Wetlands

Wetland Name	Area (ha)	Designation	Wetland Name	Area (ha)	Designation
Airport Wetlands	4	LSW	McGill 4	56	LSW
Allan White Wetland	11	LSW	Meadowlilly Woods Wetlands	5	LSW
Arva Moraine Wetland	66	PSW	Melbourne Marsh	154	PSW
Ballymote Wetlands	8	LSW	Melwood CA	3	LSW
Biddulph 12 Wetland	10	LSW	MN-4	5	LSW
Big Swamp Wetlands	130	PSW	MN-5	4	LSW
Bobcat Swamp Wetland	223	PSW	Mud Lake	100	PSW
Campbellville Swamp	93	PSW	ND17E	9	PSW
Delaware Woodlot	5	PSW	ND32E	15	LSW
Dingman Creek - N. Dorchester Wetland	135	PSW	North Dorchester Swamp	306	PSW

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Tallgrass Prairies & Savannas

Site Name	Area (ha)
Komoka Feed Mill Prairie	50
Dorchester Mill Pond	?
Komoka Park Reserve	?
Camp Kee-Mo-Kee	?
Ausable River Valley ANSI	?
Lucan to Thedford CN Prairies	2

Life Science ANSIs

Site Name	Area (ha)
Ausable River Valley Life	1020
Dorchester Swamp	491
Komoka Park Reserve	265
Mud Lakes - Dingman Lakes	84
Skunk's Misery	1204
Thames River Floodplain	147
TOTAL AREA	3211

Earth Science ANSIs

Site Name	Area (ha)
Elginfield Area Moraines	2018
Glencoe Lake Arkona	17
Kilworth Shoreline	32
Komoka Shorlines	38
TOTAL AREA	2105

NOTES

Short Forms:

LSW - Locally Significant Wetland; PSW - Provincially Significant Wetland; ANSI - Area of Natural and Scientific Interest

Sources

Hilts, SG and FS Cook. 1982. Significant Natural Areas of Middlesex County.

Upper Thames River Conservation Authority, Wetland Files.

Tallgrass Ontario files.

Ontario Ministry of Natural Resources. 1984. Life Science Areas of Natural and Scientific Interest in Site District 7-6

Ontario Ministry of Natural Resources. 1984. Life Science Areas of Natural and Scientific Interest in Site District 7-2.